

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-33 (Canceled).

Claim 34 (New). A sampler for sampling a first portion of a liquid flow, comprising an upper portion, a valve portion, and a sample chamber, wherein the upper portion comprises a sample inlet and the valve portion comprises:

a valve inlet coupled to the sampler inlet;

a valve outlet opening into the sample chamber, wherein the valve outlet is positioned substantially below the valve inlet;

a shut-off chamber separating the valve inlet from the valve outlet; and

a shut-off chamber overflow -comprising a valve overflow leading out of the shut-off chamber.

wherein the liquid flow enters the upper portion, passes through the sampler inlet and valve inlet into the valve portion, and the first portion of the liquid flow passes through the valve outlet into the sample chamber.

Claim 35 (New). A sampler according to Claim 34, wherein the valve outlet has larger transverse dimensions than the valve inlet.

Claim 36 (New). A sampler according to Claim 34, wherein the valve outlet is aligned with the valve inlet.

Claim 37 (New). A sampler according to Claim 34, further comprising a vent tube extending between a vent inlet and a vent outlet, wherein the vent inlet is positioned within the sample chamber and the vent outlet is positioned at a level above the valve outlet.

Claim 38 (New). A sampler according to Claim 37, wherein the level of the vent inlet within the sample chamber determines the level of liquid to be collected within the sample chamber, and further wherein the valve closes when liquid in the sample chamber reaches the vent inlet and obstructs it, substantially preventing further venting of air from the sample chamber.

Claim 39 (New). A sampler according to Claim 37, wherein the vent outlet opens into a vent-tube pocket which extends upward from the shut-off chamber.

Claim 40 (New). A sampler according to Claim 34, wherein, after the first portion of the liquid flow is collected in the sample chamber, further liquid flow entering the valve during use drains through the valve overflow.

Claim 41 (New). A sampler according to Claim 34, wherein the sampler inlet comprises a first-catch reservoir opening into the valve inlet.

Claim 42 (New). A sampler according to Claim 41, wherein the sampler inlet further comprises a main overflow positioned at an upper end of the first-catch reservoir.

Claim 43 (New). A sampler according to Claim 42, wherein the shut-off chamber overflow and the main overflow lead into a common overflow outlet of the sampler.

Claim 44 (New). A sampler according to Claim 41, wherein the upper portion further comprises an entrance funnel opening into the first-catch reservoir.

Claim 45 (New). A sampler according to Claim 44, wherein the funnel comprises a baffle for reducing turbulence within the first-catch reservoir.

Claim 46 (New). A sampler according to Claim 34, wherein the sample chamber is removable.

Claim 47 (New). A liquid sampler according to Claim 34, further comprising a collection means for collecting further liquid flow after the first portion of the liquid flow has been collected in the sample chamber.

Claim 48 (New). A liquid sampler according to Claim 34 for sampling a first-void urine sample when a flow of urine is introduced into the upper portion.

Claim 49 (New). A first-void urine sampler of Claim 48, wherein the first-void urine sample is collected in the sample chamber and later-voided urine is diverted away from the sample chamber.

Claim 50 (New). A first-void urine sampler of Claim 48, further comprising a collection means for collecting later-voided urine.

Claim 51 (New). A method for sampling a first portion of a liquid flow using a sampler of Claim 34, wherein:

liquid flow is introduced into the upper portion of the sampler;

the liquid flow enters the sampler inlet and passes through the valve inlet into the valve portion;

a first portion of the liquid flow passes through the shut-off chamber and valve outlet of the valve portion and enters the sample chamber;

the first portion of the liquid flow is collected in the sample chamber until it reaches a predetermined level at which further liquid flow through the valve outlet into the sample chamber is blocked; and

further liquid flow into the valve portion of the sampler is diverted through the shut-off chamber and drains through the shut-off chamber overflow.

Claim 52 (New). A method according to Claim 51, wherein the predetermined level is at an exit of the valve outlet.

Claim 53 (New). A method according to Claim 52, wherein the first portion of the liquid flow collected in the sample chamber reaches the predetermined level and then covers the exit of the valve outlet, such that further liquid flow is diverted through the shut-off chamber and drains through the valve overflow.

Claim 54 (New). A method for collecting a portion of a liquid flow, the portion being other than a first portion of the liquid flow, using a sampler according to the method of Claim 51, further wherein the further liquid flow diverted through the shut-off chamber overflow is collected.

Claim 55 (New). A method according to Claim 51, using a sampler which further comprises a first-catch reservoir opening into the valve inlet, and a main overflow positioned at an upper end of the first-catch reservoir, comprising:

introducing liquid flow into the first-catch reservoir until the first-catch reservoir is full;

draining excess liquid flow through the main overflow when the first-catch reservoir is full;

allowing the liquid in the first-catch reservoir to pass through the valve portion into the sample chamber until the liquid in the sample chamber reaches a predetermined level at which further flow through the valve outlet into the sample chamber is blocked; and

after further liquid flow into the sample chamber is blocked, draining any liquid remaining in the first-catch reservoir through the valve inlet into the shut-off chamber and through shut-off chamber overflow.

Claim 56 (New). A method according to Claim 55, using a sampler which further comprises a first-catch reservoir leading into the valve inlet and a main overflow positioned at an upper end of the first catch reservoir, wherein liquid flow is introduced into the upper portion of the sampler and passes into the first-catch reservoir, and when the first-catch reservoir is full, any further liquid flow introduced into the reservoir is drained through the main overflow.